

THE TRAINING OF
APPRENTICES *in*
the GOVERNMENT
PRINTING OFFICE

REVISED EDITION
JANUARY, 1926

Government Printing Office : 1926

COURSES FOR THE TRAINING OF APPRENTICES IN THE GOVERNMENT PRINTING OFFICE

Prepared under direction of the Public Printer



REVISED EDITION: JANUARY, 1926



GOVERNMENT PRINTING OFFICE
WASHINGTON
1926

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ENTRANCE REQUIREMENTS

Apprentices in the Government Printing Office are required to pass a civil-service competitive examination and obtain a satisfactory rating.

[Extract from Civil Service Apprentice Examination Announcement No. 10]

TRADES

Appointments will be made to apprenticeships in the following trades: Printer, pressman, bookbinder, electrotyper, stereotyper, photo-engraver, and machinist in the Government Printing Office. A separate register of eligibles will be established for each of these trades. * * *

LENGTH OF APPRENTICESHIP

Appointees must serve for a period of at least four years as apprentice to the assigned trade before they can be promoted to journeyman standing in such trade. Time absent on authorized leave with pay, legal and Executive order holidays, and military and naval duty, as provided by law, will be deducted from the required training period, but all other absence on working-days will be added to the training period in determining the rates of pay, qualifications for promotion, and graduation to journeyman standing.

RATES OF PAY

For the trades listed above apprentices will receive for the first year one-third of the rate of wages of mechanics of the trade to which assigned; for the second and third years one-half the rate, and for the fourth year two-thirds of the rate. The rate to be paid journeyman printers, pressmen, and bookbinders is 95 cents an hour, electrotypers and stereotypers \$1.05 an hour, machinists \$1.05 an hour, and photo-engravers \$1.15 an hour. The rate of wages paid is subject to revision yearly.

ENTRANCE REQUIREMENTS

HOLIDAYS

Employees are entitled to 30 days accrued leave of absence each year, together with all legal holidays, with full pay. It is customary for the offices of the Government departments to close at noon on Saturday during the three summer months.

RECREATION, ETC.

An employee enjoys the advantages of one of the most up-to-date cafeterias in the country, which will mean a substantial saving if patronized. He also has the use of the bowling alleys, shower baths, rest rooms, etc., which are operated in connection with the cafeteria.

CITIZENSHIP AND SEX

All citizens of the United States who meet the requirements, both boys and girls, may enter this examination; appointing officers, however, have the legal right to specify the sex desired in requesting certification of eligibles. For these positions in the Government Printing Office boys are desired.

SUBJECTS AND WEIGHTS

Competitors will be rated on the following subjects, which will have the relative weights indicated:

<i>Subjects</i>	<i>Weights</i>
1. Spelling.....	20
2. Penmanship (the legibility, rapidity, neatness, and general appearance of the competitor's handwriting in the subject of copying from plain copy).....	5
3. Copying from plain copy (a simple test in copying accurately, in the competitor's handwriting, a few printed lines).....	10
4. Letter writing (a letter between 100 and 125 words in length on some subject of general interest. Competitors may select either of two subjects given).....	15
5. Arithmetic (simple tests in addition, subtraction, multiplication, and division of whole numbers, common and decimal fractions, the ordinary weights and measures, United States money, and simple percentage).....	15
6. Education, training, and experience.....	35
Total.....	100

* * * * *

ENTRANCE REQUIREMENTS

EDUCATION AND TRAINING

Under the sixth subject applicants must show that they have an education equal to the completion of the eighth grade of common school. Statements as to education and training are accepted subject to verification.

AGE

Applicants must have reached their sixteenth but not their nineteenth birthday on the date of the examination. Certification to apprentice positions in the Government Printing Office will not be made of eligibles who have reached their twentieth birthday. Age limits do not apply to persons entitled to preference because of military or naval service, except that such applicants must not have reached the retirement age.

PHYSICAL REQUIREMENTS

Applicants must be physically sound and in good health, and must have vision not less than 20/20 with either eye, or 20/20 combined. Applicants who are between the ages of 16 and 17 years must be at least 62 inches in height and weigh not less than 108 pounds, without clothing; and those who are between the ages of 17 and 19 years must be at least 63 inches in height and weigh not less than 110 pounds, without clothing. The medical certificate in the application blank * * * must be executed, and before entry on duty those selected for appointment will be required to pass an examination by a physician to be designated by the Public Printer in order to establish their physical soundness.

RETIREMENT

Classified employees who have reached the retirement age and have served 15 years are entitled to retirement with an annuity. The retirement age for positions of this kind is 65 years. A deduction of $2\frac{1}{2}$ per cent is made from the monthly salary to provide for this annuity, which will be returned to persons leaving the service before retirement with 4 per cent interest, compounded annually.

COMPENSATION FOR INJURIES

An employee is entitled to compensation for injuries received in line of duty.

ENTRANCE REQUIREMENTS

PHYSICAL EXAMINATION OF APPOINTEES

In view of the benefits granted employees under employees' compensation and retirement legislation, persons appointed may be given a physical examination by a physician in the Federal service before entering on duty. * * *

Issued November 11, 1925.

The apprentices are indentured, the papers being signed by the apprentice and countersigned by the parent or guardian.

As a condition of the intensive training given, apprentices will be required to attend a recognized educational institution for such periods as may be directed by the Public Printer.

FOREWORD

AN OUTLINE only is given of the courses of instruction for the apprentice. Every opportunity will be given the student to ground himself thoroughly in his chosen trade. It must be remembered, though, that the student will progress only to the extent he may apply himself.

Implicit obedience to the rules of the office and directions of the Instructor will be expected and required.

It will be the constant aim to develop a craftsman who will be an honor to his Government and a credit to the trade.

GEORGE H. CARTER,
Public Printer.

PRINTER COURSE

(4)

FIRST PERIOD - 1 month

Lay of case:

Caps, small caps, lower case.

Purpose of quads and spaces.

Leaders and en periods and en commas.

Meaning of "font."

Meaning of various characters.

The point system.

Leads, slugs, rules, and scabbard:

How and why numbered.

When to cut and when not to cut.

Sorting and putting away.

SECOND PERIOD - 3 months

Setting type:

Position at the case.

Adjusting the stick.

Learning to pick up type.

Avoiding false motions.

Emptying the stick.

Use of leads and slugs.

Use of composing rule.

Justification.

Spacing.

Division of words.

Indention.

Leaders.

Learning names of type.

Punctuation.

Capitalization.

The galley:

Its use and care.

How to carry.

Locking up.

Position of, when correcting.

Overrunning matter on.

Correct manner of tying work:

So wound that strands will parallel, working from bottom to top.

So firmly wound that nothing will drop out, or off, the ends of the lines.

PRINTER COURSE

THIRD PERIOD - 1 month

(5)

Taking proof:

See that there are no raised letters or dirt under the type, page paper, or galley; also, see that bed of press is clean.

Ink to be well distributed on roller.

Roll from bottom toward top of galley.

Position of pages.

Record where job is placed.

Planer—

How to use.

Brush its face with palm of hand.

How placed when through using.

Proof press—

Care of.

Make sure galley is properly locked.

How to avoid creasing paper in full galley.

See that slug or other identification mark is at head of galley.

See that rules are even with face of type, and leads below face of type.

Distribution:

Difference in manner of handling small or larger sizes of type.

Never overload the case.

Return of cuts, rules, leads, or "sorts" to proper person or place.

Do not permit cuts to get wet.

Care of cuts:

Never leave in an exposed place.

Protect with cardboard.

Be sure no pins or brads are in cardboard protection.

Manner of putting away.

¶ BOOKS ARE TEACHERS, WHOSE INSTRUCTIONS ARE UNACCOMPANIED WITH BLOWS OR HARSH WORDS; WHO DEMAND NEITHER FOOD NOR WAGES ∴ ∴ ∴ ∴

∴ GOVERNMENT PRINTING OFFICE ∴

PRINTER COURSE

(9) FOURTH PERIOD - 4 months

Bookwork:

Safeguard the copy.

Make sure stick is true.

Align paragraphs in some cases where more than one size of type is used.

Difference in character or size of type where cut-in note, marginal note, or footnote is used.

Main heads.

Subheads.

Hanging indentions.

Indention to be increased with width of measure.

How to set remainder of word or words following initial letter.

Carrying over a single word or part of word.

Crowding a line.

Spacing too wide.

Avoiding lanes.

Ending a paragraph with less than an em.

Running matter around a cut.

Ligatures and diphthongs.

Foreign phrases.

Poetry.

Formulas.

Q. and A. matter.

¶ During the first year apprentices will be detailed to the Document Proof Room as copyholders, the object being to keep the parts of speech clear in their minds, help them to decipher manuscript, and enunciate properly.

PRINTER COURSE

FIFTH PERIOD - 3 months

(12)

Tabular work:

Casting up.

Reading columns: When to leader from top or bottom line.

Figure columns.

Box headings.

Bearing off figures from rules.

Ruling out: Number of lines to be counted—not measured—and ruled out accordingly with labor-saving rule.

Braces.

Alignment of points.

When and where not to use leaders.

Single and parallel dashes.

Unrelated groups.

Flush lines.

Hanging indention, avoiding conflicts where more than one.

Use of colon.

Use of dash.

∴

¶ AT A GENERAL COURT HELD AT BOSTON
ON THE 8th DAY OF THE 8th MONTH, 1641,
STEPHEN DAYE, "BEING THE FIRST THAT
SET UPON PRINTING, IS GRANTED 300
ACRES OF LAND, WHERE IT MAY BE CON-
VENIENT, WITHOUT PREJUDICE TO ANY
TOWN" ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴ ∴

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PRINTER COURSE

(15)

SIXTH PERIOD - 3 months

Making-up:

Verify sequence of galley slug numbers.

Folios.

Sinks in new pages.

Signature marks.

Facing pages to be same length.

Chapter heads.

Continued lines—

Leader and tabular matter.

Stub of table.

Extracts.

Marginal notes.

Cut-in notes.

Footnotes.

Side notes on outside margin.

Avoiding break lines on top of pages.

Cuts, allowing for—

Treatment of, where several are on one page or broad, on facing pages.

Running matter around, proper white space to be allowed.

Result of retaining slugs broader at top than at bottom and vice versa.

Avoiding high slugs in type going to press.

Watching for broken type.

Avoiding leading out with short leads in mono or foundry type.

Difference in monotype em quad and its multiples owing to set measurement.

PRINTER COURSE

SEVENTH PERIOD - 12 months

(27)

Job work :

Spacing cap lines.

Spacing lower-case lines.

Use of a series.

Combinations that produce harmony.

Margins—top, bottom, and side.

White space.

Proper balance—

 Main lines.

 Secondary lines.

 Catch lines.

 When large type does not constitute display.

 Treatment where a number of lines of straight reading matter are to be used so as to allow for proper display of the job.

 Particular spacing between lines with special regard to weight of main lines.

 Training the eye to beauty and symmetry.

 Difference in actual center and optical center.

Judgment in selecting type.

The art of composition as revealed in a title-page—

 When lower case is permissible.

 When all caps is desirable.

 Avoidance of most job faces.

Setting type in curves or brass circles.

Constructing a pedigree.

How to skeletonize.

Distribution—

 Rule to be observed when distributing script.

 Wood type and cuts—not to get wet.

¶ Apprentices will be detailed to the Testing Section for short periods of time, where they will be instructed as to the different grades and kinds of paper.

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PRINTER COURSE

(34)

EIGHTH PERIOD - 7 months

Imposing (or stonework):

(5 months on job work, 2 months on book work.)

Correct manner of placing the furniture.

Correct manner of placing the quoins.

Correct manner of using the key.

Use of bearers in small forms.

Varying pressures.

The twin (book) chase.

Planing the form (special reference to script, italic, rule, or cuts).

Making sure that all type is "on its feet" and that form is securely locked.

"Truing" the job or the pages.

Failure to "lift."

Causes of binding.

Causes of "riding" on press.

Foundry lockup: Why forms are plated.

Form layouts—

Sheetwise, tumble, legal fold, inset, etc.

Proving correctness of layout.

Side, back, head, and foot margins.

Registering the pages.

The crossbar.

Forms not to be placed in rack face to face.

Wesel blocks.

Patent blocks for plates—

Locking away from "pull" of cylinder.

Use of ratchet so as to avoid damaging plates.

¶ While receiving instruction in imposition, apprentices will be taken to the Platemaking, Press, and Bindery Divisions for the purpose of becoming acquainted with the sequence of operations necessary to a finished product, special attention being given to the necessity of certain layouts for folding-machine production.

PRINTER COURSE

NINTH PERIOD - 6 months

(40)

Monotype

Keyboard operating:

Straight matter—

- Keyboard layout.
- Operating technique.
- Letter combinations.
- Practice words. (Touch system.)
- Alphabetical sentences and capitals.
- Ligatures.
- Allowance for initials and cuts.
- Changing ems and units from one set to another.
- Typewriter faces.

Tabular matter—

- Tabular work with rules.
- Tabular work without rules.
- Box headings.
- Letter spacing.
- Ditto work.
- Multiple-column work.
- Intricate tabular work.

Mechanism:

- Knowledge of mechanism of machine.
- Reading perforations on paper ribbon.
- Setting machine to any measure and adjust and prove the same.
- Knowing when machine is not properly registering.
- Knowledge of the effect on the caster of a "killed" line.
- Effect of placing a character in wrong unit row.
- Use of unit wheel for column, leader work, and fixed spaces.
- Use of justifying scale and keys.
- Use of the stop bar.
- When to change bar banks.

¶ *The machine course will require 6 months: Two weeks on the Linotype and two weeks on the Monotype for the purpose of decision, and 5 months (or less, as may be) on machine finally selected to prove adaptability.*

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PRINTER COURSE

(40)

NINTH PERIOD - *Continued*

Linotype or Intertype

Dummy keyboard:

- Keyboard layout.
- Finger movement or "touch" system.
- Fingering combinations.

Live keyboard:

- Operation of.
- Straight matter.
- Spacing and justification.
- Twin-slug composition.
- Broken measure.
- Borders and dashes.
- Signs and symbols.

Mechanism (apprentice must thoroughly study Lino Instruction Book):

- Mechanism of machine.
- Action necessary when distributor stops.
- Opening magazine entrance.
- Removing wrong-font matrix from distributor box.
- Removing fallen matrix from magazine.
- Avoiding squirts.
- Detecting hot and cold slugs.
- Lowering and closing vise.
- Turning mold disk.
- Changing liners and ejector blades.
- Adjusting side trimming knives.
- Changing magazine.
- Adjusting font distinguisher.

PRINTER COURSE

TENTH PERIOD - 8 months

(48)

Proof reading, revising, etc.:

(Apprentices will be detailed to proof and job sections during training periods of the first 40 months.)

Become thoroughly conversant with the Government Printing Office Style Manual.

The regular marks, as illustrated in Government Printing Office Style Manual, must be learned before entering proof room.

Read copy editor's instruction sheet.

Before starting to read, verify sequence of folios and see that the proof is legible. When reading is finished, see that all of the copy is returned with the proof.

Run the lines on the right side of column in straight matter to see if punctuation marks or thin letters have dropped off or are caught on leads; also observe whether there are any words wrongly divided.

Run the left side with a view to detecting any errors of indention, or omissions of lettered or numbered paragraphs.

When with a copyholder or partner read distinctly, but not so loud as to disturb your fellow workmen. Face the desk; read to your partner, not to other desks.

Learn to make the marks distinctly and directly opposite the place where error exists; if word is omitted, make the caret so it does not impinge on the word beneath. Make neat marks; avoid crossing lines or marking across printed matter.

Take nothing for granted. When in doubt, inquire, or, if necessary, resort to a query.

See that compositor has followed instructions as to size and face of type, the width and depth of page, whether leaded or solid, or to any special orders given by copy editor.

¶ THE GLORY AND POWER OF PRINTING IS NOT ALL IN THE PAST. ITS INFLUENCE IN THE PRESENT MAKES IT A POWERFUL CONSERVATOR OF HUMAN PROGRESS. IT IS THE HANDMAIDEN OF ALL ARTS AND INDUSTRIES, AND A MOST EFFECTIVE WORKER IN THE WORLD'S WORKSHOP, TO POLISH AND REFINES THE CIVILIZATION OF THE AGE ∴ ∴ ∴ ∴

—Thomas Carlyle

∴ GOVERNMENT PRINTING OFFICE ∴

PRINTER COURSE

(48)

TENTH PERIOD - *Continued*

Proof reading, revising, etc. - *Continued.*

Uniformity is necessary in the use of figures, capitalization, abbreviations, fractions, side heads, or peculiarities in compounding or spelling words.

Watch for wrong-font letters and faulty composition that may be caused by wrong layout in die case. If any are found, immediately notify assistant foreman,

Be very careful as to dates, places, and signatures.

Correct spelling of proper and geographic names.

If one of a team, insist on partner calling black letter, caps, small caps, italic, inferior or superior figures or letters (when letters, if roman or italic), changes from one size of type to another, whether abbreviations are used instead of entire word, or vice versa; and whether leaded or solid.

That compositors may make no mistake, when the desire is to mark a capital I use the lower case *i* with three strokes underneath.

If the proof has an unfinished paragraph at the foot, or contains a paragraph belonging to the galley following, mark distinctly on copy the point to which read and pass it immediately to reader who has the next galley. If there are a few lines at head of a sheet of copy that belong on preceding galley, pass it to the reader needing the "run down" as soon as finished.

When revising proof it is well to look over entire line, if set on monotype, to see that corrected letters are level with the rest and that the line is on its feet; if set on the linotype it is necessary that entire line be read, and to see that the slug is in its proper position. Make sure that no lines have dropped from foot of galley while being corrected. In linotype matter, if correction has not been made, run each line to insure the wrong slug has not been pulled.

Many of the qualifications required in a maker-up will be necessary in revising proof.

☞ *SOME BOOKS ARE TO BE TASTED, OTHERS
TO BE SWALLOWED, AND SOME FEW TO
BE DIGESTED. - - - READING MAKETH A
FULL MAN, CONFERENCE A READY MAN,
AND WRITING AN EXACT MAN.*

—Lord Bacon.

PRINTER COURSE

Lectures will be given on the subjects of estimating and jacket writing, the student being given practical tests from time to time. Experience in press revising will be gained by the apprentice as he may be detailed during the last two years of service.



THE MARK OF THE CRAFTSMAN IS UNMISTAKABLE. IT STAMPS EVERYTHING HE DOES WITH THAT INTANGIBLE SOMETHING, "EVERYWHERE PERVASIVE AND NOWHERE EMPHATIC," THAT IS STYLE.

PLATEMAKING COURSE

Electrotype Finishing

FIRST YEAR - - - - -	Oiling and taking care of machines. Operating finishing machines. Operating proving press.
SECOND YEAR - - - - -	Rough-straightening plates.
THIRD YEAR - - - - -	Repairing, correcting, and revising. Mounting plates, wood base.
FOURTH YEAR - - - - -	Mounting plates, metal base. Making accented letters and characters. Wax ruling.

Electrotype Molding

FIRST 6 MONTHS - - -	Oiling machinery. Filling, stripping, and shaving cases.
SECOND 6 MONTHS -	Battery work. Operating blackleading machines.
THIRD 6 MONTHS - -	Backing up. Cutting down.
FOURTH 6 MONTHS -	Building up.
THIRD YEAR - - - - -	Preparing forms for molder. Molding.
FOURTH YEAR - - - - -	Nickel-plating. Care of copper and nickel solutions. Care and mixture of wax.

Stereotyping

FIRST YEAR - - - - -	Oiling and taking care of machines. Dropping forms.
SECOND YEAR - - - - -	Filling metal pot. Operating stereotype machinery.
THIRD YEAR - - - - -	Casting stereotype plates. Molding with machine and brush.
FOURTH YEAR - - - - -	Preparing and cooking paste for matrices. Making matrices.

PHOTO-ENGRAVING COURSE

FIRST YEAR

Four three-month periods assisting journeymen in various stages of the work, as follows:

The camera and its use.

The care and purpose of screens.

Line drawings, half tones, etc.

Wet plates.

Collodions.

Preparation of formulas used in developing and intensifying various negatives.

Stripping and printing.

Ben Day laying.

Printing from negatives on zinc, copper, etc.

Use of "dragon's-blood" in protecting etchings.

Acid and chloride baths.

Zinc and copper etching.

Proving.

SECOND YEAR

Repetition of essentials in first year's work, including blocking, and training in use of router, trimmer, beveler, and machine tools.

THIRD YEAR

Re-etching and finishing, with use of hand tools.

FOURTH YEAR

Special training necessary to finish the development of a competent artisan.

PRESSMAN COURSE

(9)

FIRST PERIOD - 9 months

Platen Presses

Press feeding:

- Oiling and cleaning.
- Washing the press.

Press preparation:

- Preparing the tympan.
- Inking up.

Make-ready:

- Placing the form.
- Pulling the first impression.
- Setting gauges and registering.
- Underlaying.
- Overlaying.
- Press O. K.
- Type forms.
- Wood-base electros.
- Mixed forms.
- Rule forms.

Press rollers:

- Adjustment.
- Care and seasoning.

Printing ink:

- Qualities of ink.

Paper:

- Grades of paper.
- Static electricity.

Press adjustments and mechanism:

- Platen movement.
- Bed movement.
- Roller carriage.
- Trip movement.
- Disk and fountain.
- Gears, cams, and side arms.

PRESSMAN COURSE

FIRST PERIOD - *Continued*

(9)

Platen Presses - Continued

Half-tone make-ready:

- Square half tones.
- Vignettes.
- Process color.
- Tint blocks.
- Ink distribution.

Special press operations:

- Perforating.
- Scoring.
- Die cutting.
- Numbering.
- Embossing.
- Bronzing.

Automatic feeders:

- Gauges and sheet adjusters.
- Grippers and delivery fingers.
- Air-feed mechanism.
- Feed and delivery boards.
- Minor adjustments.
- Envelope and card attachments.

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¶ ERHARDUS RATDOLT, OF VENICE, ENJOYS
THE HONOR OF BEING THE FIRST TO PRINT
IN LETTERS OF GOLD, WHICH MAY BE SEEN
IN HIS EDITION OF "EUCLID," 1499 ∴ ∴

∴ GOVERNMENT PRINTING OFFICE ∴

PRESSMAN COURSE

(40) SECOND PERIOD - 2 years and 7 months

HANDLING FORMS	- - - - -	3 months
JOB PRESS SECTION	- - - - -	4 months
BOOKWORK, IMPOSITION, PLATE WORK, MAKE-READY	} - -	12 months
ILLUSTRATION WORK, CUT OVERLAYS, ETC.	-	12 months

Cylinder Presses

Press feeding:

- Oiling and cleaning.
- Washing up.

Press preparation:

- Preparing the tympan.
- Inking the press.
- Setting guides.

Minor adjustments:

- Feedboard and guides.
- Grippers.
- Shooflies and stripper fingers.
- Sheet bands and cylinder brush.
- Slitter and tape reels.
- Fly and sheet delivery.
- Fountain.

Make-ready:

- Placing the form.
- Registering and position O. K.
- Underlaying.
- Overlaying.
- Type forms.
- Wood-base electros.
- Mixed forms.

Make-ready of engravings:

- Line plate and Benday.
- Square half tone.
- Color type forms.
- Vignette.
- Duotone.
- Process color.

PRESSMAN COURSE

SECOND PERIOD - *Continued*

(40)

Cylinder Presses - Continued

Press rollers:

- Adjustment.
- Care and seasoning.

Printing ink:

- Qualities of ink.
- Ink on paper.

Press adjustments and mechanism:

- Bed motion.
- The cylinder.
- Bed bearers and registry segment.
- Compression rods.
- Cylinder adjusting screws and cylinder springs.
- The trip.
- Gibs and shoes.
- Track and trackways.
- Air cushion.

Mechanical overlays:

- Preparing press to make overlay.
- Impression.
- Relieving high lights.
- Final processes.

Plates and bases:

- Imposition of plate forms.
- Laying and clamping book plates.
- Clamping and registering color plates.
- Interlaying.
- Uses of plates and bases.

Automatic feeders:

- | | |
|------------------------------|-------------------------|
| Loading the stock. | Trips and sheet guides. |
| Feeding mechanism. | Types of feeders. |
| Calipers, tapes, and guards. | |

Types and uses of cylinder presses.

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PRESSMAN COURSE

(48)

THIRD PERIOD - 2 months

Ink Room:

Observation - 1 month.

Roller Room:

Observation - 1 month.

FOURTH PERIOD - 6 months

Web and Harris Presses:

Operating 3-month period on each.



¶ *PRINTING IN COLORED INKS WAS FIRST SHOWN IN THE "MENTZ PSALTER," OF 1457, BY PETER SCHÖFFER. INITIAL LETTERS WERE IMPRESSED WITHOUT INK AND PAINTED WITH A BRUSH ∴ ∴ ∴*

∴ GOVERNMENT PRINTING OFFICE ∴

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BOOKBINDER COURSE

(48)

FIRST PERIOD - 6 months

Pamphlet Binding Section:

Fold, gather, wire-stitch, collate, etc., by hand and machine.

SECOND PERIOD - 1 year

Ruling and Sewing Section:

Gluing up, rounding, boarding, covering, and siding cut-flush books.

Mounting and guarding, repairing old books, and sawing out.

Feeding a ruling machine. Later operating a machine under the supervision of a paper ruler.

Making-ready blank books.

THIRD PERIOD - 2 years

Forwarding and Finishing Section:

Operating flat cutting machines and trimmers.

Smashing, cutting books, gluing, rounding and backing, headband, crash and line, case-in, pressing, making book covers, boxes, etc.

Stamping book covers in gold, metal, ink, etc.

Forwarding and covering library and blank books, making loose-leaf binders, lettering in gold or ink, rolling, creasing, siding, and pasting up library and blank books, and all other work relating to the art of bookbinding.

FOURTH PERIOD - 6 months

¶ The last six months of the fourth year are to be spent in division where in the judgment of superintendent highest attainment in workmanship has been made during the preceding $3\frac{1}{2}$ years.

¶ Details from one section to another will be made in the discretion of the superintendent of division

MACHINIST COURSE

(Each apprentice must take a course of mechanical drawing.)

FIRST YEAR

First to Sixth Month - - - - Learning the different tools by name, what they are used for, how they should be cared for, and the value of each; helping issue and receive tools and equipment; grinding drills, cutters, and edge tools.

Seventh to Twelfth Month - - Helping machinists on different shop work.

SECOND YEAR

Working with machinist on general all-round work; learning how to use the different machines by performing to start with straight work on lathe, shaper, drill press, different types of grinding machines, planer, and milling machines. This is followed by training in the different types of thread cutting, inside and outside taper work, how to make proper fits, and what allowances should be made.

THIRD YEAR

Working with machinists on emergency call work; shop work when not on repair work. It is essential to know that a production machine should not be down any longer than necessary, how to plan the best way for repair to place machine in good condition as soon as possible.

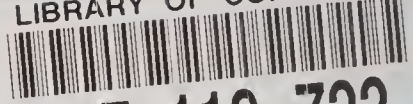
FOURTH YEAR

Continue working with machinists on call jobs. To prove his competency, apprentice will be given, at intervals, repair jobs to be handled only by himself.

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